**Spring 2013**

**Hilsman Middle School**

**Ecosystems and Invasive Species**

***Supply list:*** organism “role” cards and string

***Lesson Outline:***

1. Activity **(10 min)**

If the weather is nice, feel free to take students outside for this activity. Each student receives one organism “role” to play from a Georgia ecosystem. Have the students introduce their organism and its “role” to the rest of the group. Use string to connect each organism to the others that it helps or depends on (as written on the cards). This helps visualize all the connections within the ecosystem.

Discuss what each organism needs and how it depends on the others in the system. Could any organism live by itself? How would a change (i.e. extermination, infection, population growth) in one type of organism result in changes to others?

***Invasion!*** Instructors will represent the invasive species. Introduce your organism and its impact on the ecosystem. The invasive species eliminates/outcompetes a native species-- that student must let go of his/her connections(strings) in the ecosystem.

What happens to the organisms that depended on the eliminated species? That the eliminated species needed? What else does the invasive species do? How is this ecosystem now different?

2. Discussion **(10 min)**

Discuss with the students the consequences of moving organisms around (bringing something new into our biome OR taking an organism out of its home). We humans do this on both large and small scales: individuals dump exotic pets or take plants home with them, and on a large scale we import species as game, crops, and ornamentals. Some invasive species they might be familiar with:

 **kudzu wisteria mimosa**

**fire ants**

What happens when you take an organism out of it’s biome or natural habitat (i.e. a beetle, a box turtle, a plant you find on the side of the road)?

What happens when you bring a new organism to our biome (i.e. releasing an exotic fish into a pond)?

*Note: There are plenty of subtleties to the issue, and an important one is that not all exotic (non-native) species are necessarily invasive (harmful to ecosystems). The idea here is to get the students to actually think about the potential consequences of introducing novel species.*

**Organism “role” cards**

**Cogongrass**

**Replaces understory plants like berry bush**

**Not good food for birds and squirrels**

**Rough edges hurt squirrels**

**Encourages very hot fires**

**Squirrel**

**Eats nuts and seeds**

**Eaten by owl**

**Lives in trees**



**Owl**

**Eats squirrels and snakes**

**Lives in trees**

**Snake**

**Eats birds**

**Eaten by owl**

**Hides from owl under berry bush**



**Oak tree**

**Seeds spread by squirrels**

**Killed by fire**

**Berry bush**

**Killed by fire**

**Pollinated by insects**

**Seeds spread by songbirds**

**Songbirds**

**Eats berries and spreads seeds**

**Eats insects**

**Killed by snake**

**Lives in trees**



**Insects**

**Pollinate berry bush**

**Eaten by birds**

**Live on understory plants**